

REMARKSI. Introduction

In response to the Office Action dated October 21, 2004, claims 20-22, 33, 37, 40, 55-60 and 62 have been amended. Claims 20-40, 55-74 and 78-81 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Non-Art Rejections

In paragraphs (3)-(4) of the Office Action, claims 20-22, 37, 40 and 55-81 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Applicants' attorney has amended some of the claims to overcome these rejections, but traverses others of the claims, as set forth below.

With regard to claim 58, the Office Action stated that it is unclear and vague to the Examiner how a peripheral device operates as a state machine and how a peripheral device controls hardware.

Applicants' attorney disagrees. State machines are well known representations of the operation of digital devices, including peripheral devices. Moreover, a peripheral device is comprised of various hardware components, so it is well-known in the art that a peripheral device would control its hardware components. Consequently, there is nothing vague in these phrases.

With regard to claim 59, the Office Action stated that it is unclear and vague to Examiner how the peripheral devices communicate with the server, and that the Examiner will interpret the claim as computing devices connected in a local area network having Internet access through a gateway.

Applicants' attorney disagrees. Peer-to-peer communications and firewalls for servers are well known in the art (although their use with networked peripheral devices is novel). Consequently, there is nothing vague in these phrases.

In the section entitled "Claim Interpretation," the Office Action stated that, regarding the independent claims of the invention, a discussion about peripheral devices in a terminal should be made to clarify Examiner's interpretation. According to the Office Action, the definition of a peripheral device is a computer device that is connected to a computer and is controlled by the computer's microprocessor. According to the Office Action, a peripheral device containing a processor and memory communicating with other peripheral devices that also contain a processor

and memory is the same as two computers communicating. According to the Office Action, the independent claims involve a peripheral device associated with a control application in order to operate with other control applications associated with other peripherals. This is the same as a computing system with device drivers installed in order to communicate with the devices. According to the Office Action, in the Examiner's opinion, Applicant does not distinguish between Applicants' claimed invention and the basic local area network of networked computers communicating with each other and a server.

Applicants' attorney disagrees. "Peripheral devices" are well-known in the art as devices controlled by, and subordinate to, a central processing unit in a computer system. Those skilled in the art would not consider peripheral devices to be the same as a local area network of networked computers communicating with each other and a server. Consequently, by using the term "peripheral devices," Applicant does distinguish between Applicants' claimed invention and a local area network of networked computers communicating with each other and a server.

III. Prior Art Rejections

A. The Office Action Rejections

On page (4) of the Office Action, claims 20, 21-23, 35-40, 58, 73, and 78-81 were rejected under 35 U.S.C. §102(b) as being anticipated by Ward, U.S. Patent No. 4,636,947 (Ward). In paragraph (23) of the Office Action, claims 20-34, 55-57, and 60-62 were rejected under 35 U.S.C. §102(e) as being anticipated by Chen, U.S. Patent No. 6,512,760 (Chen). In paragraph (30) of the Office Action, claims 63-69 were rejected under 35 U.S.C. §102(b) as being anticipated by Mack et al., U.S. Patent No. 5,673,385 (Mack). In paragraph (33) of the Office Action, claim 74 was rejected under 35 U.S.C. §102(e) as being anticipated by Livingston et al., "Windows 95 Secrets, 3rd Edition," (Livingston). In paragraph (35) of the Office Action, claims 70-72 were rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of obviousness.

Applicants' attorney respectfully traverses these rejections.

B. The Ward Reference

Ward describes a method and apparatus for reducing customer transaction time in an automated teller machine (ATM) having various peripheral devices associated therewith. Each peripheral device associated with the ATM; e.g. a card handler mechanism, a printer mechanism, one or more cash dispenser mechanisms, and a depository mechanism, include a dedicated processor

and memory for controlling the operation of the peripheral device connected thereto. The ATM also includes a peripheral control unit connected to the various subsystem controllers and to an ATM control unit for receiving generated transaction sequence event messages and in response thereto concurrently processing the messages to initiate simultaneous real-time operation of the various peripheral devices. For example, the concurrent processing of transaction sequence event messages allows completion of the card ready activity, entry of a customer PIN and printing of the customer receipt header to take place simultaneously. This parallel activity of the peripheral devices reduces the elapsed time for a customer to complete an ATM transaction.

C. The Chen Reference

Chen describes a Local Area Network (LAN) having two or more computing devices equipped with Wide Area Network (WAN) access capability is conventionally predefined with the computing device having the best WAN link performance as the Gateway. In SOHO (Small Office Home Office) or residential settings where computing devices are powered on only when needed, the predefined Gateway often may not be ready to provide service. An active Client with WAN access capability could be utilized to establish an alternate link, temporarily. With an alternate WAN link established, other Clients' communication needs can be served by sharing such link. Even the Gateway, if it is powered on afterwards, would utilize this link instead of establishing its own which could disturb the ongoing traffic.

D. The Mack Reference

Mack describes an invention that provides a process for loading an off-board program into a computer peripheral apparatus connected to a host computer via a standard interface port. Random access memory of the peripheral apparatus is used by the host computer. The process includes the steps of: applying power to the apparatus, initializing the apparatus to achieve minimal operational conditions, polling the interface port for a signal indicative of a host computer to peripheral apparatus program download request. Upon receiving the download request, the peripheral apparatus configures the random access memory to receive the program via the interface port, then provides a signal indicative of readiness to receive the program. The program can then be downloaded from the host, received in the random access memory, and run. If the download request is not recognized, the apparatus is fully initialized to its normal state of readiness for

receiving common commands from the host computer. Substantially the same process can be used for upgrading other programmable memories of computer peripheral apparatus.

E. The Livingston Reference

Livingston allegedly is entitled "Windows 95 Secrets," 3rd edition. Allegedly, Livingston describes a transaction processing terminal, wherein devices which are not functioning have a yellow exclamation sign.

F. Applicants' Claims Are Patentable Over The Ward Reference

With regard to the rejections of claims 20, 21-23, 35-40, 58, 73, and 78-81 under 35 U.S.C. §102(b) as being anticipated by Ward, U.S. Patent No. 4,636,947, the Applicants' invention is patentable over this reference.

Independent claim 20 recites a self-service terminal comprising a plurality of peripheral devices, each of the peripheral devices having an independent associated control application, the control applications being operable to communicate with each other; whereby, in use, a peripheral device operates in response to a signal generated by another peripheral device.

Ward merely discloses an automated teller machine (ATM) having various "smart" peripheral devices associated therewith. However, in Ward, each peripheral device associated with the ATM, is under the direct control of the ATM (specifically, the PCU or ACU) and there is no capability for these peripheral devices to communicate directly with other peripheral devices independently of the ATM.

Independent claim 37 recites a self service terminal network, where the network comprises a server in communication with a terminal, the terminal including a plurality of peripheral devices, each of the peripheral devices having a different independent control application operable to communicate with the other independent control applications, so that a peripheral device operates in response to one or more signals generated by the control application of another peripheral device.

Ward does not teach or suggest that peripheral devices communicate directly with other peripheral devices independently of the ATM. Therefore, none of the peripheral devices in Ward have independent control applications that communicate with other independent control applications of other peripheral devices, so that a peripheral device operates in response to one or more signals generated by the control application of another peripheral device.

Independent claim 40 recites a peripheral device for use in a self service terminal, the terminal having a plurality of peripheral devices, each of the peripheral devices having an independent control application that is operable to communicate the internal states of the peripheral device to other peripheral devices in the terminal and to operate in response to signals communicated from control applications of the other peripheral devices.

Ward does not teach or suggest that peripheral devices communicate directly with other peripheral devices independently of the ATM. Therefore, none of the peripheral devices in Ward have independent control applications for each peripheral device that communicate internal states of the peripheral device to other peripheral devices, or that operate in response to signals communicated from the control applications of other peripheral devices.

Independent claim 58 recites a peripheral device that operates as a state machine based upon states communicated through interfaces to hardware components under control of the peripheral device, and based upon messages received from other peripheral devices over a connected network comprising a transaction processing terminal.

Ward does not teach or suggest that peripheral devices communicate directly with other peripheral devices independently of the ATM. Therefore, none of the peripheral devices in Ward operate as a state machine based on messages received from other peripheral devices.

Independent claim 73 recites a networked peripheral device having a memory queue storing incoming messages from other peripheral devices that are part of a functional group, where the messages are stored in the queue in the order received and the device accesses the oldest stored message first and deletes a message from the queue once the message is accessed, and where said functional group comprises a transaction processing terminal.

Ward says nothing about peripheral devices that interoperate as part of a functional group, nor does Ward describe peripheral devices that receive messages from other peripheral devices. Finally, Ward does not describe the storing, accessing and deleting of messages in such a context.

Independent claim 78 recites a peripheral device for a transaction processing terminal including a dedicated processor, read/write memory and an I/O port, and further including a web server facility enabling communications over a connected IP network between the peripheral device and a remote terminal using a web browser utility executing on the remote terminal.

Ward says nothing about peripheral devices having web server facilities that enable communications with a remote browser.

Independent claim 79 recites a peripheral device for a transaction processing terminal including a dedicated processor, read/write memory and an I/O port, and further including state of health and diagnostic facilities accessible by a remote terminal over a connected IP network.

Ward says nothing about peripheral devices having web server facilities that enable communications with a remote terminal. Specifically, Ward does not disclose state of health and diagnostic facilities of a peripheral device accessible by the remote terminal over a connected IP network.

Independent claim 80 recites a peripheral device for a transaction processing terminal including a dedicated processor, read/write memory and an I/O port, and further including state of health and diagnostic facilities accessible by a remote wireless PDA terminal over a connected IP network.

Ward says nothing about a peripheral device having state of health and diagnostic facilities accessible by a remote wireless PDA terminal over a connected IP network.

Independent claim 81 recites a peripheral device for a transaction processing terminal including a dedicated processor, read/write memory and an I/O port, and configured to communicate notice of error and designated state of health conditions to a remote terminal over a connected IP network.

Ward says nothing about a peripheral device having the capability to communicate notice of error and designated state of health conditions to a remote terminal over a connected IP network.

Thus, Ward fails to teach the Applicants' claimed invention. Further, the various elements of the Applicants' claimed invention together provide operational advantages over the systems disclosed in Ward. In addition, Applicants' invention solves problems not recognized by Ward. Consequently, Applicants submit that claims 20, 21-23, 35-40, 58, 73, and 78-81 are allowable over Ward.

Further, dependent claims 21-23, 35-36 and 38-39 are submitted to be allowable over the cited reference in the same manner, because they are dependent on their respective independent claims, and thus contain all the limitations of those independent claims. In addition, dependent claims 21-23, 35-36 and 38-39 recite additional novel elements not shown by the cited reference.

G. Applicants' Claims Are Patentable Over The Chen Reference

With regard to the rejections of claims 20-34, 55-57, and 60-62 under 35 U.S.C. §102(e) as being anticipated by Chen, U.S. Patent No. 6,512,760, Applicants' attorney respectfully traverses these rejections on the basis that Chen is not a prior art reference. Applicants' attorney notes that Chen has a filing date of August 9, 1999, whereas this application is a continuation of U.S. Patent

Application Serial No. 09/229,045, filed January 12, 1999 (now U.S. Patent No. 6,311,165, issued October 30, 2001), which application claims priority to U.K. Patent Application Serial Nos. 9808997.2 filed April 29, 1998, 9808995.6 filed April 29, 1998, and 9816178.9 filed July 25, 1998. Consequently, Applicants' attorney requests that these rejections be withdrawn.

Similarly, with regard to the rejections of claims 70-72 under 35 U.S.C. §103(a) as being unpatentable over Chen in view of obviousness, Applicants' attorney respectfully traverses these rejections on the basis that Chen is not a prior art reference, as noted above. Consequently, Applicants' attorney requests that these rejections be withdrawn.

H. Applicants' Claims Are Patentable Over The Mack Reference

With regard to the rejections of claims 63-69 under 35 U.S.C. §102(b) as being anticipated by Mack et al., U.S. Patent No. 5,673,385, the Applicants' invention is patentable over this reference.

Independent claim 63 recites a server device that operates both as a repository for software used by a plurality of interoperable peripheral devices communicating over a connected network comprising a transaction processing terminal, and as a proxy server for data required by at least one of the peripheral devices to process a transaction.

Mack merely discloses a system that provides the ability to download code resident on the host computer into a peripheral device during power-on or boot-up. However, nowhere does Mack describe both a repository for software used by the peripheral devices and a proxy server for data required by at least one of the peripheral devices to process a transaction.

Independent claim 64 recites a peripheral device that interoperates as part of a functional group of peripheral devices between which messages are exchanged over a connected network, where the messages include identifiers of the sending device and of the functional group, and where the functional group comprises a transaction processing terminal.

Mack says nothing about peripheral devices that interoperate as part of a functional group, nor does Mack describe peripheral devices between which messages are exchanged. Finally, Mack does not describe the use of messages in such a context, where the messages include identifiers of the sending device and of the functional group.

Independent claim 65 recites a peripheral device that interoperates as part of a functional group of peripheral devices between which messages are exchanged over a connected network, where the messages include identifiers of the sending device and of the functional group, and where

the messages are in the form of serialized objects that are reconstructed upon receipt, and where the functional group comprises a transaction processing terminal.

Mack says nothing about peripheral devices that interoperate as part of a "functional group," nor does Mack describe peripheral devices between which messages are exchanged. Finally, Mack does not describe the use of messages in such a context, where the messages include identifiers of the sending device and of the functional group and the messages are in the form of serialized objects that are reconstructed upon receipt.

Independent claim 66 recites a peripheral device that announces its initialization by broadcasting a message to other peripheral devices that interoperate as a group over a network, where said group comprises a transaction processing terminal.

Mack says nothing about peripheral devices that interoperate as a group, nor does Mack describe peripheral devices that broadcast messages to other peripheral devices that interoperate as a group.

Independent claim 67 recites a peripheral device that initializes its operations by transmitting a message to other peripheral devices that interoperate as a group over a network, where the message includes identifiers of the device and a port address at which the device receives messages, and where said group comprises a transaction processing terminal.

Mack says nothing about peripheral devices that interoperate as a group, nor does Mack describe peripheral devices that transmit messages to other peripheral devices that interoperate as a group. Finally, Mack does not describe the use of messages in such a context, where the messages include identifiers of the device and a port address at which the device receives messages.

Independent claim 68 recites a peripheral device that initializes its operations by transmitting a start-up message to a range of addresses on a connected network at which the message may be received by one or more other peripheral devices that interoperate as part of a functional group comprising a transaction processing terminal.

Mack says nothing about peripheral devices that interoperate as a functional group, nor does Mack describe peripheral devices that initialize their operations by transmitting a start-up message to a range of addresses on a connected network at which the message may be received by one or more other peripheral devices that interoperate as part of a functional group.

Independent claim 69 recites a peripheral device that initializes its operations by transmitting a start-up message used to create a registry of multiple peripheral devices that interoperate as part of a

functional group comprising a transaction processing terminal, where the registry is used to identify the devices that are functionally present and to direct communications within the functional group.

Mack says nothing about peripheral devices that interoperate as a functional group, nor does Mack describe peripheral devices that initialize their operations by transmitting a start-up message used to create a registry of multiple peripheral devices that interoperate as part of a functional group. Finally, nowhere does Mack describe a registry that is used to identify the devices that are functionally present and to direct communications within the functional group.

Thus, Mack fails to teach the Applicants' claimed invention. Further, the various elements of the Applicants' claimed invention together provide operational advantages over the systems disclosed in Mack. In addition, Applicants' invention solves problems not recognized by Mack. Consequently, Applicants submit that claims 63-69 are allowable over Mack.

I. Applicants' Claims Are Patentable Over The Livingston Reference

With regard to the rejection of claim 74 under 35 U.S.C. §102(e) as being anticipated by Livingston et al., "Windows 95 Secrets, 3rd Edition," (Livingston), Applicants' attorney respectfully traverses this rejection on the basis that Livingston is not of record in this application. Specifically, Livingston was not cited on any Form PTO-1449 or PTO-892 in this application, nor was a copy provided with the Office Action. Consequently, Applicants' attorney requests that the rejection be withdrawn.

Moreover, the Office Action asserts that Livingston teaches devices which are not functioning to have a yellow exclamation sign, meaning the device is unusable. However, this is not pertinent to claim 74, which recites a transaction processing terminal comprising a plurality of networked peripheral devices including a user interface that removes otherwise available services from a displayed user menu when an associated peripheral device is functionally absent. No such user interface is cited in the Office Action's reliance on Livingston.

IV. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited.

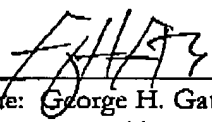
Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,

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